DRBC Current Database Structure   5/8/2006

Overview:

There are currently three separate data sources at DRBC which can potentially be merged into an integrated and centralized database. The data fall into three existing categories:

Data Category	Branch	Owner
Project Review	Project Review	Bridget Ferry
Water Charging	Operations	Gail Blum
Water Use	Planning and Implementation	David Sayers

The Project Review and Water Charging databases are developed and updated continually by DRBC staff. The data are collected and entered by staff into databases specifically designed for the purpose. The Water Use database is different in that the data are collected by state agencies and transmitted to DRBC on a regular (approximately once / year) basis. The nature of the data is similar enough such that it is all considered to be "water use data", but the exact format of the submission to DRBC is not specified, mainly due to the continually evolving data management practices at the state agencies which mean the data format may change year to year. This presents additional problems in defining one data structure for the water use data.

Each data set is described in more detail below:

1. Project Review Data:

Format: Single MS Access database (Access 2000 file format)
Approximate File Size: 8MB
Description: This stores information that DRBC collects related to projects that require approval from the Commission. It contains multiple related tables.
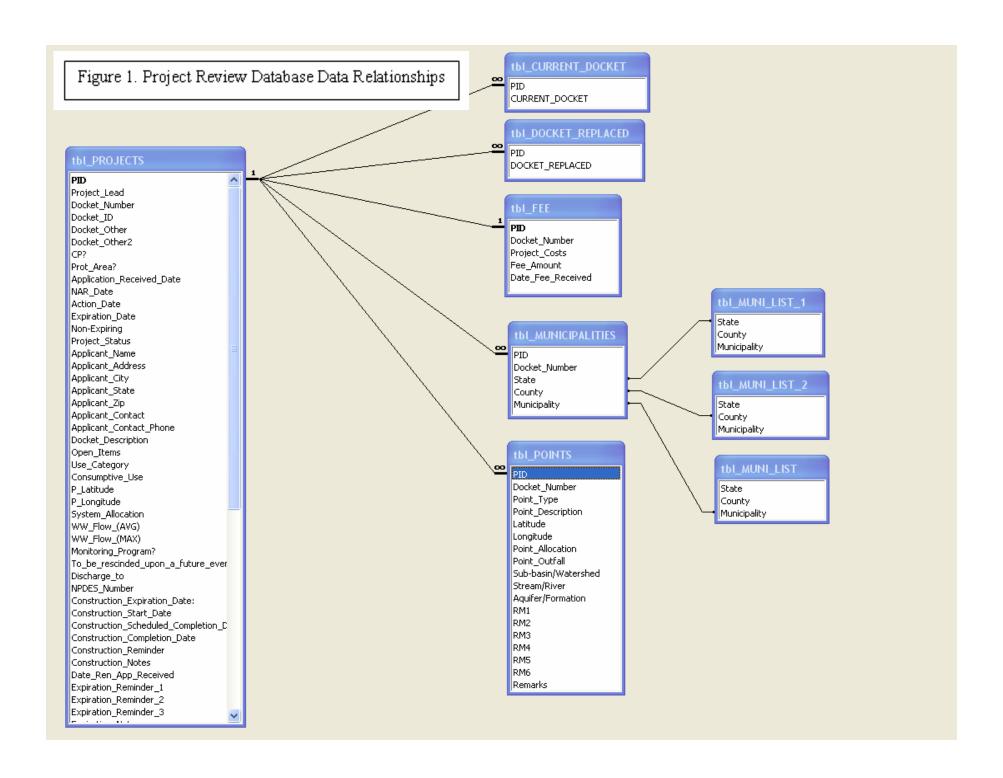
Table Structure / Definitions:

Project Review Table Structures			
TableName	**FieldName**	**FieldType**	**FieldLength**
tbl_ALIAS	Applicant Name	Text	255
tbl_ALIAS	Previous Name	Text	255
tbl_ALIAS	Note	Text	255
tbl_ALIAS	Date of Note	Text	255
tbl_CURRENT_DOCKET	PID	Long	4
tbl_CURRENT_DOCKET	CURRENT_DOCKET	Text	255
tbl_DISCHARGE	Discharge to	Text	50
tbl_DOCKET_RELATED	PID	Long	4
tbl_DOCKET_RELATED	DOCKET_RELATED	Text	50
tbl_DOCKET_REPLACED	PID	Long	4

	Project Review Table Structures		
TableName	**FieldName**	**FieldType**	**FieldLength**
tbl_DOCKET_REPLACED	DOCKET_REPLACED	Text	255
tbl_FEE	PID	Long	4
tbl_FEE	Docket_Number	Text	50
tbl_FEE	Project_Costs	Double	8
tbl_FEE	Fee_Amount	Double	8
tbl_FEE	Date_Fee_Received	Date/Time	8
tbl_INTERCONNECTIONS	PID	Long	4
tbl_INTERCONNECTIONS	Interconnections	Text	150
tbl_MUNI_LIST	State	Text	10
tbl_MUNI_LIST	County	Text	60
tbl_MUNI_LIST	Municipality	Text	60
tbl_MUNICIPALITIES	PID	Long	4
tbl_MUNICIPALITIES	Docket_Number	Text	50
tbl_MUNICIPALITIES	State	Text	50
tbl_MUNICIPALITIES	County	Text	50
tbl_MUNICIPALITIES	Municipality	Text	50
tbl_POINTS	PID	Long	4
tbl_POINTS	Docket_Number	Text	50
tbl_POINTS	Point_Type	Text	50
tbl_POINTS	Point_Description	Text	75
tbl_POINTS	Latitude	Long	4
tbl_POINTS	Longitude	Long	4
tbl_POINTS	Point_Allocation	Double	8
tbl_POINTS	Point_Outfall	Double	8
tbl_POINTS	Sub-basin/Watershed	Text	50
tbl_POINTS	Stream/River	Text	50
tbl_POINTS	Aquifer/Formation	Text	50
tbl_POINTS	RM1	Double	8
tbl_POINTS	RM2	Double	8
tbl_POINTS	RM3	Double	8
tbl_POINTS	RM4	Double	8
tbl_POINTS	RM5	Double	8
tbl_POINTS	RM6	Double	8
tbl_POINTS	Remarks	Memo	0
tbl_PROJECTS	PID	Long	4
tbl_PROJECTS	Project_Lead	Text	50
tbl_PROJECTS	Docket_Number	Text	50
tbl_PROJECTS	Docket_ID	Text	10
tbl_PROJECTS	Docket_Other	Text	50
tbl_PROJECTS	Docket_Other2	Text	50
tbl_PROJECTS	CP?	Boolean	1
tbl_PROJECTS	Prot_Area?	Boolean	1

Project Review Table Structures

TableName	FieldName	FieldType	FieldLength
tbl_PROJECTS	Application_Received_Date	Date/Time	8
tbl_PROJECTS	NAR_Date	Date/Time	8
tbl_PROJECTS	Action_Date	Date/Time	8
tbl_PROJECTS	Expiration_Date	Date/Time	8
tbl_PROJECTS	Non-Expiring	Boolean	1
tbl_PROJECTS	Project_Status	Text	50
tbl_PROJECTS	Applicant_Name	Text	75
tbl_PROJECTS	Applicant_Address	Text	255
tbl_PROJECTS	Applicant_City	Text	50
tbl_PROJECTS	Applicant_State	Text	50
tbl_PROJECTS	Applicant_Zip	Text	50
tbl_PROJECTS	Applicant_Contact	Text	100
tbl_PROJECTS	Applicant_Contact_Phone	Text	50
tbl_PROJECTS	Docket_Description	Text	255
tbl_PROJECTS	Open_Items	Text	255
tbl_PROJECTS	Use_Category	Text	50
tbl_PROJECTS	Consumptive_Use	Double	8
tbl_PROJECTS	P_Latitude	Long	4
tbl_PROJECTS	P_Longitude	Long	4
tbl_PROJECTS	System_Allocation	Double	8
tbl_PROJECTS	WW_Flow_(AVG)	Double	8
tbl_PROJECTS	WW_Flow_(MAX)	Double	8
tbl_PROJECTS	Monitoring_Program?	Boolean	1
tbl_PROJECTS	To_be_rescinded_upon_a_future_event	Text	50
tbl_PROJECTS	Discharge_to	Text	50
tbl_PROJECTS	NPDES_Number	Text	50
tbl_PROJECTS	Construction_Expiration_Date:	Date/Time	8
tbl_PROJECTS	Construction_Start_Date	Date/Time	8
tbl_PROJECTS	Construction_Scheduled_Completion_Date	Date/Time	8
tbl_PROJECTS	Construction_Completion_Date	Date/Time	8
tbl_PROJECTS	Construction_Reminder	Date/Time	8
tbl_PROJECTS	Construction_Notes	Text	50
tbl_PROJECTS	Date_Ren_App_Received	Date/Time	8
tbl_PROJECTS	Expiration_Reminder_1	Date/Time	8
tbl_PROJECTS	Expiration_Reminder_2	Date/Time	8
tbl_PROJECTS	Expiration_Reminder_3	Date/Time	8
tbl_PROJECTS	Expiration_Notes	Text	50
tbl_PROJECTS	No_Construction	Boolean	1
tbl_PROJECTS	No_Annual_Report_Required	Boolean	1
tbl_PROJECTS	One-time_Report_Due_Date	Date/Time	8
tbl_PROJECTS	AR_Due_Date_1	Date/Time	8
tbl_PROJECTS	AR_Due_Date_2	Date/Time	8

Project Review Table Structures			
TableName	**FieldName**	**FieldType**	**FieldLength**
tbl_PROJECTS	AR_Due_Date_3	Date/Time	8
tbl_PROJECTS	AR_Due_Date_4	Date/Time	8
tbl_PROJECTS	AR_Due_Date_5	Date/Time	8
tbl_PROJECTS	AR_Due_Date_6	Date/Time	8
tbl_PROJECTS	AR_Due_Date_7	Date/Time	8
tbl_PROJECTS	AR_Due_Date_8	Date/Time	8
tbl_PROJECTS	AR_Due_Date_9	Date/Time	8
tbl_PROJECTS	AR_Due_Date_10	Date/Time	8
tbl_PROJECTS	One-time_Report_Received	Date/Time	8
tbl_PROJECTS	AR_1_Received	Date/Time	8
tbl_PROJECTS	AR_2_Received	Date/Time	8
tbl_PROJECTS	AR_3_Received	Date/Time	8
tbl_PROJECTS	AR_4_Received	Date/Time	8
tbl_PROJECTS	AR_5_Received	Date/Time	8
tbl_PROJECTS	AR_6_Received	Date/Time	8
tbl_PROJECTS	AR_7_Received	Date/Time	8
tbl_PROJECTS	AR_8_Received	Date/Time	8
tbl_PROJECTS	AR_9_Received	Date/Time	8
tbl_PROJECTS	AR_10_Received	Date/Time	8
tbl_PROJECTS	AR_Notes	Text	50
tbl_PROJECTS	One-time_Notes	Text	50
tbl_USE_CATEGORY	Use_Categories	Text	50

Figure 1. Project Review Database Data Relationships

tbl_CURRENT_DOCKET
- PID
- CURRENT_DOCKET

tbl_DOCKET_REPLACED
- PID
- DOCKET_REPLACED

tbl_PROJECTS
- **PID**
- Project_Lead
- Docket_Number
- Docket_ID
- Docket_Other
- Docket_Other2
- CP?
- Prot_Area?
- Application_Received_Date
- NAR_Date
- Action_Date
- Expiration_Date
- Non-Expiring
- Project_Status
- Applicant_Name
- Applicant_Address
- Applicant_City
- Applicant_State
- Applicant_Zip
- Applicant_Contact
- Applicant_Contact_Phone
- Docket_Description
- Open_Items
- Use_Category
- Consumptive_Use
- P_Latitude
- P_Longitude
- System_Allocation
- WW_Flow_(AVG)
- WW_Flow_(MAX)
- Monitoring_Program?
- To_be_rescinded_upon_a_future_even
- Discharge_to
- NPDES_Number
- Construction_Expiration_Date:
- Construction_Start_Date
- Construction_Scheduled_Completion_D
- Construction_Completion_Date
- Construction_Reminder
- Construction_Notes
- Date_Ren_App_Received
- Expiration_Reminder_1
- Expiration_Reminder_2
- Expiration_Reminder_3

tbl_FEE
- **PID**
- Docket_Number
- Project_Costs
- Fee_Amount
- Date_Fee_Received

tbl_MUNICIPALITIES
- PID
- Docket_Number
- State
- County
- Municipality

tbl_POINTS
- PID
- Docket_Number
- Point_Type
- Point_Description
- Latitude
- Longitude
- Point_Allocation
- Point_Outfall
- Sub-basin/Watershed
- Stream/River
- Aquifer/Formation
- RM1
- RM2
- RM3
- RM4
- RM5
- RM6
- Remarks

tbl_MUNI_LIST_1
- State
- County
- Municipality

tbl_MUNI_LIST_2
- State
- County
- Municipality

tbl_MUNI_LIST
- State
- County
- Municipality

2. Water Charges Data:

Format: Multiple MS Excel Workbooks
Approximate File Size: 7MB
Description: Tracks compliance with DRBC's Water Supply Charges Program. Withdrawals from approximately 400 facilities are tracked. Tables are flat file format, with repeated information.

Table Structure / Definitions:

Q RPTS_1994 TO PRESENT.XLS

FIELDS

Field Name	Type		Calculated?
PEND?	Text		N
PEND TYPE	Text		N
YR	Number		N
Q	Number		N
USE	Text		N
STATE	Text		N
LAST Q CREDIT	Currency		N
WATER USER	Text		N
SOURCE	Text		N
CHECK DATE (OR DATE RCVD IF NO PAYMENT DUE)	Date		N
AMT PAID	Number		N
DUE DATE	Date		N
TOT WD (MG/Q)	Number		N
CONSUMPT USE (MG/Q)	Number	Water suppliers= .10 * tot wd	Y/N
NON CONSUMPT USE (MG/Q)	Number		Y
REPLACEMENT FACTOR	Number		N
CONSMPT. ENT (MG/Q)	Number		N
NONCONSMPT. ENT (MG/Q)	Number		N
CONSUMPTIVE (MG/Q)	Number	<Use v. Ent.	Y
NON-CONSUMP (MG/Q)	Number		Y
CONSMPT. (MG/Q)	Number	<Chargeable	Y
NON-CONSMPT. (MG/Q)	Number		Y
GROSS CHGS	Currency		Y
RFA NET CHARGES	Currency		Y
MIN Q PAYMENT	Currency		N
TOT NET CHARGES	Currency		Y

APPLIED LATE CHARGE	Currency	N
OVER/UNDER PAYMENT	Currency	Y
COMPLETED?	Text	N
PAYMENT/RPT NOTES	Text	N
OTHER NOTES	Text	N

PRE-1961 RPTS_1994 TO PRESENT.XLS

FIELDS

Field Name	*Type*	*Calculated?*
PEND?	Text	N
PEND CODE	Text	N
USE	Text	N
STATE	Text	N
SB	Text	N
RPT FREQ.	Text	N
ENT. STATUS	Text	N
NAME	Text	N
SOURCE	Text	N
YR	Number	N
SW (MGY)	Number	N
GW (MGY)	Number	N
PURCHW (MGY)	Number	N
SELF-SUPPLIED (MGY)	Number	Y
CONSUMP (MGY)	Number	N
JAN	Number	N
FEB	Number	N
MAR	Number	N
APR	Number	N
MAY	Number	N
JUN	Number	N
JUL	Number	N
AUG	Number	N
SEP	Number	N
OCT	Number	N
NOV	Number	N
DEC	Number	N
TOTAL	Number	Y
AVG MO. SW USE (MG)	Number	Y
*TOTAL MO. ENT. ALLOC. (MG)	Number	Y
ENT #	Text	N

| METHOD | | Text | N |
| NOTES | | Text | N |

GOLF RPTS_1994 TO PRESENT.XLS

FIELDS

Worksheet 1: Pre-1961			Worksheet 2: Post-1961		
Field Name	*Type*	**Calc'd?**	*Field Name*	*Type*	**Calc'd?**
PEND?	Text	N	PEND?	Text	N
PEND TYPE	Text	N	PEND TYPE	Text	N
OWNID	Text	N	OWNID	Text	N
USE	Text	N	USE	Text	N
STATE	Text	N	STATE	Text	N
SB	Text	N	SB	Text	N
NAME	Text	N	NAME	Text	N
SOURCE	Text	N	SOURCE	Text	N
YR	Number	N	YR	Number	N
GPM PCAP	Number	N	GPM PCAP	Number	N
JAN	Number	N	RF	Number	N
FEB	Number	N	JAN	Number	N
MAR	Number	N	FEB	Number	N
APR	Number	N	MAR	Number	N
MAY	Number	N	APR	Number	N
JUN	Number	N	MAY	Number	N
JUL	Number	N	JUN	Number	N
AUG	Number	N	JUL	Number	N
SEP	Number	N	AUG	Number	N
OCT	Number	N	SEP	Number	N
NOV	Number	N	OCT	Number	N
DEC	Number	N	NOV	Number	N
WITHDR TOTAL (MG)	Number	Y	DEC	Number	N
CONSUMP MG/YR	Number	Y	WITHDR TOTAL (MG)	Number	Y
METH MEAS	Text	N	CONSUMP MG/YR	Number	Y
# WELLS	Text	N	METH MEAS	Text	N
MG GW	Number	N	# WELLS	Text	N
COMPLETED?	Text	N	MG GW	Number	N
NOTES	Text	N	PAYMENT	Currency	N
			PAYMENT CALC	Currency	Y
			OVER/ UNDER	Currency	Y
			COMPLETED?	Text	N
			NOTES	Text	N

SKI RPTS.XLS

FIELDS

Field Name	*Type*	*Calculated?*
PEND?	Text	N
PEND CODE	Text	N
USE	Text	N
SB	Text	N
NAME	Text	N
SOURCE	Text	N
SEASON (ex. 2004-2005)	Number	N
CHECK DATE	Date	N
AMT PAID	Number	N
NOV <water use in mg>	Number	N
DEC <water use in mg>	Number	N
JAN <water use in mg>	Number	N
FEB <water use in mg>	Number	N
MAR <water use in mg>	Number	N
TOTAL <water use in mg>	Number	Y
CREDIT FROM LAST SEASON	Currency	N
$ OWED	Currency	Y
UNDER/OVER PAYMENT	Number	Y
COMPLETED?	Text	N
PAYMENT/RPT NOTES	Text	N
OTHER NOTES	Text	N

3. Water Use Data:

Format: Multiple MS Access databases (Access 2000 file format)
Approximate File Size: 5 (dbs) * 50MB approx
Description: Multiple databases are used to track the history of water use for regulated users in the Basin. The period 1987 – 1997 is covered by a single database which is in MS Access format as a single flat file (no relationships). The data for more recent years are stored in separate databases (one for each of the four states). These are relational databases that all follow the general format of having a primary table of facility-based information (location and other static attributes) related to a table of monthly water use values for a period of several years (a one-to-many relationship). The data are currently kept separate as the states submit data using different table formats and structures. Typically at each new submission the entire record set is replaced as the state cleans or makes changes to old data.

DRBC relies upon each state to submit water use data that is collected by the state agencies (Pennsylvania Department of Environmental Protection (PADEP) / New Jersey Department of Environmental Protection (NJDEP) / Delaware Department of Environmental Resources and Control (DE DNREC) / New York State Department of Health (NYSDOH)). DRBC compiles the data, but due to the different submission formats and frequent changes in format, the databases are not combined. The data are pulled together on an ad hoc basis to answer specific queries.

Shown below are the table structures for the 1987-1997 flat file and also the data structure for the NJDEP data.

Table Structure / Definitions:

Water Use 1987 - 1997			
TableName	**FieldName**	**FieldType**	**FieldLength**
All Withdrawals (GIS)	drbcid	Text	255
All Withdrawals (GIS)	name	Text	255
All Withdrawals (GIS)	type	Text	255
All Withdrawals (GIS)	state	Text	255
All Withdrawals (GIS)	county	Text	255
All Withdrawals (GIS)	latitude	Double	8
All Withdrawals (GIS)	longitude	Double	8
All Withdrawals (GIS)	year	Double	8
All Withdrawals (GIS)	jan	Double	8
All Withdrawals (GIS)	feb	Double	8
All Withdrawals (GIS)	mar	Double	8
All Withdrawals (GIS)	apr	Double	8
All Withdrawals (GIS)	may	Double	8
All Withdrawals (GIS)	jun	Double	8
All Withdrawals (GIS)	jul	Double	8
All Withdrawals (GIS)	aug	Double	8
All Withdrawals (GIS)	sep	Double	8
All Withdrawals (GIS)	oct	Double	8
All Withdrawals (GIS)	nov	Double	8
All Withdrawals (GIS)	dec	Double	8
All Withdrawals (GIS)	total	Double	8
All Withdrawals (GIS)	category	Text	255
All Withdrawals (GIS)	drbc_cat	Text	255
All Withdrawals (GIS)	drbc_subcat	Text	255
All Withdrawals (GIS)	HUC8_NAME	Text	255
All Withdrawals (GIS)	HUC11_NAME	Text	255
All Withdrawals (GIS)	DRB_SUBBASIN	Text	255
All Withdrawals (GIS)	GIS_COUNTY	Text	255
All Withdrawals (GIS)	AutoNumber	Long	4

tbIDASDefs			
TableName	**FieldName**	**FieldType**	**FieldLength**
Nov03_NJGS_Sites_LATLONG	SITE_ID	Double	8
Nov03_NJGS_Sites_LATLONG	NJEASTING	Double	8
Nov03_NJGS_Sites_LATLONG	NJNORTHING	Double	8
Nov03_NJGS_Sites_LATLONG	SITENAME	Text	100
Nov03_NJGS_Sites_LATLONG	PERMITNUMB	Text	50
Nov03_NJGS_Sites_LATLONG	OWNERNAME	Text	200
Nov03_NJGS_Sites_LATLONG	SITETYPE	Text	50
Nov03_NJGS_Sites_LATLONG	USETYPE	Text	50
Nov03_NJGS_Sites_LATLONG	USEGROUP	Text	50
Nov03_NJGS_Sites_LATLONG	MGMALLO	Double	8
Nov03_NJGS_Sites_LATLONG	MGYALLO	Double	8
Nov03_NJGS_Sites_LATLONG	RESOURCENA	Text	200
Nov03_NJGS_Sites_LATLONG	WATERBODYT	Text	30
Nov03_NJGS_Sites_LATLONG	HUC14	Text	14
Nov03_NJGS_Sites_LATLONG	HUCFRACTIO	Double	8
Nov03_NJGS_Sites_LATLONG	HUC11	Text	11
Nov03_NJGS_Sites_LATLONG	WATERMGMNT	Text	50
Nov03_NJGS_Sites_LATLONG	LAT	Double	8
Nov03_NJGS_Sites_LATLONG	LONG	Double	8
Withdrawals	Site_ID	Long	4
Withdrawals	SiteName	Text	100
Withdrawals	Year	Text	255
Withdrawals	Jan	Double	8
Withdrawals	Feb	Double	8
Withdrawals	Mar	Double	8
Withdrawals	Apr	Double	8
Withdrawals	May	Double	8
Withdrawals	Jun	Double	8
Withdrawals	Jul	Double	8
Withdrawals	Aug	Double	8
Withdrawals	Sep	Double	8
Withdrawals	Oct	Double	8
Withdrawals	Nov	Double	8
Withdrawals	Dec	Double	8
Withdrawals	Annual Total	Double	8

Figure 2. Water Use Data Example (NJ Data) Relationships

Nov03_NJGS_Site...

SITE_ID
NJEASTING
NJNORTHING
SITENAME
PERMITNUMB
OWNERNAME
SITETYPE
USETYPE
USEGROUP
MGMALLO
MGYALLO
RESOURCENA
WATERBODYT
HUC14
HUCFRACTIO
HUC11
WATERMGMNT
LAT
LONG

1 ∞

Withdrawals_1

Site_ID
SiteName
Year
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Annual Total